

Appendix I

Ameren Load Forecast

Ameren Illinois Company (“AIC”)
Load Forecast for the period June 1, 2013 – May 31, 2018

Purpose and Summary

The creation of the load forecast is an essential step in the development of the AIC procurement plan. The load forecast provides the basis for subsequent analysis resulting in a projected system supply requirement. The load forecast process includes a multi-year historical analysis of loads, analysis of switching trends, and competitive retail markets by customer class, known and projected changes affecting load, customer class specific growth forecasts and an impact analysis of statutory programs related to energy efficiency and renewable energy. The results of this analysis and modeling include a 5 year summary analysis of the projected system supply requirements.

Load Forecast Methodology

Energy Forecast

The models developed for the June 1, 2013 – May 31, 2018 load forecast use both econometric and the statistically adjusted end use (SAE) approaches. The traditional approach to forecasting monthly sales is to develop an econometric model that relates monthly sales to weather, seasonal variables, and economic conditions. The strength of econometric models is that they are well suited to identify historical trends and to project these trends into the future. In contrast, the strength of the end-use modeling approach is the ability to identify the end use factors that are driving energy use. By incorporating an end-use structure into an econometric model, the statistically adjusted end-use modeling framework exploits the strengths of both approaches. This SAE approach was used for all residential and commercial classes, while traditional econometric models were developed for the industrial and public authority classes. Lighting sales were forecasted by either exponential smoothing models or econometric models. Models were developed using revenue month sales data spanning from January 1997 (data for some models start later than 1997) to April 2012. Economic variables were obtained from Moody’s Economy.com. Saturation and efficiency data were obtained from EIA. Revenue month weather data was created using billing cycles and weighting daily average temperatures according to the billing cycles. After revenue month sales models were created, the models were simulated with calendar month weather (and calendar month days where applicable) to obtain the calendar month sales forecast.

Since the rate structure changed in 2007 and it was not possible to reclassify the historical data according to the new rates; therefore, modeling was done on each revenue class, i.e., residential, commercial, industrial, public authority and lighting. The next step in the energy forecast was to allocate the sales forecast into the new delivery service rates. DS1 class is equivalent to residential class, and lighting sales are equivalent to DS5. Commercial, industrial and public authority sales were separated into the DS2, DS3A, DS3B and DS4 classes after calculating the shares of each delivery service class within a revenue class.

Residential SAE Model

The SAE modeling framework defines energy use in residential sector ($USE_{y,m}$) in year (y) and month (m) as the sum of energy used by heating equipment ($Heat_{y,m}$), cooling equipment ($Cool_{y,m}$) and other equipment ($Other_{y,m}$). The equation for this is as follows:

$$Use_{y,m} = Heat_{y,m} + Cool_{y,m} + Other_{y,m} \quad (1)$$

Although monthly sales are measured for individual customers, the end-use components are not. Substituting estimates for the end-use elements gives Equation 2,

$$Use_{y,m} = a + b_1 \times XHeat_{y,m} + b_2 \times XCool_{y,m} + b_3 \times XOther_{y,m} + \varepsilon_{y,m} \quad (2)$$

where $XHeat_{y,m}$, $XCool_{y,m}$, and $XOther_{y,m}$ are explanatory variables constructed from end-use information, weather data, and market data. As shown below, the equations used to construct these X variables are simplified end-use models, and the X variables are the estimated usage levels for each of the major end use based on these models. The estimated model can then be thought of as a statistically adjusted end-use model, where the estimated slopes are the adjustment factors.

Constructing XHeat- Electric

Energy use by space heating systems depends on heating degree days, heating equipment share levels, heating equipment operating efficiencies, billing days, average household size, household income, and energy price. The heating variable is represented as the product of an annual equipment index and a monthly usage multiplier. That is,

$$XHeat_{y,m} = HeatIndex_y \times HeatUse_{y,m} \quad (3)$$

where $XHeat_{y,m}$ is estimated heating energy use in year (y) and month (m), $HeatIndex_y$ is the annual index of heating equipment, and $HeatUse_{y,m}$ is the monthly usage multiplier.

The $HeatIndex$ is defined as a weighted average across equipment saturation levels normalized by operating efficiency levels. Given a set of fixed weights, the index will change over time with changes in equipment saturations (Sat) and operating efficiencies (Eff). Formally, the equipment index is defined as:

$$HeatIndex_y = StructuralIndex_y \times \sum_{Type} Weight^{Type} \times \frac{\left(\frac{Sat_y^{Type}}{Efficiency_y^{Type}} \right)}{\left(\frac{Sat_{05}^{Type}}{Efficiency_{05}^{Type}} \right)} \quad (4)$$

In the above expression, 2005 is used as a base year for normalizing the index. The ratio is equal to 1 in 2005. In other years, it will be greater than 1 if equipment saturation

levels are above their 2005 level. This will be counteracted by higher efficiency levels, which will drive the index downward. The weights are defined as follows.

$$\text{Weight}^{\text{Type}} = (\text{Energy}^{\text{Type}} / \text{HH}_{05}) \times \text{HeatShare}_{05}^{\text{Type}} \quad (5)$$

$(\text{Energy}_{05}^{\text{Type}} / \text{HH}_{05})$ is the unit energy consumption of each end-use in 2005 according to EIA data adjusted for each service territory. $\text{HeatShare}_{05}^{\text{Type}}$ is the saturation levels for each heating end-use in 2005 multiplied by a structural index with base year 2005, which is a function of surface area and building shell efficiency.

$$\text{HeatShare}_{05}^{\text{Type}} = \text{Saturation}_{05}^{\text{Type}} \times \text{Structural Index}_{05} \quad (6)$$

where

$$\text{Structural Index}_y = (\text{Building Shell Efficiency}_y \times \text{Surface Area}_y) / (\text{Building Shell Efficiency}_{05} \times \text{Surface Area}_{05}) \quad (7)$$

where

$$\text{Surface Area} = 892 + 1.44 \times \text{House Size} \quad (8)$$

The end-use saturation and efficiency trends are developed from Energy Information Administration (EIA)'s regional projections.

Heating system usage levels are impacted on a monthly basis by several factors, including weather, household size, income levels, prices and billing days. Since the revenue month heating degree days are used in the SAE index, HDD is not used as a separate variable in the model. The estimates for space heating equipment usage levels are computed as follows:

$$\text{HeatUse}_{y,m} = \left(\frac{\text{BDays}_{y,m}}{\text{AvgBDays}} \right) \times \left(\frac{\text{WgtHDD}_{y,m}}{\text{HDD}_{05}} \right) \times \left(\frac{\text{Income}_{y,m}}{\text{Income}_{05}} \right)^{0.20} \times \left(\frac{\text{HHSize}_{y,m}}{\text{HHSize}_{05}} \right)^{0.25} \times \left(\frac{\text{ElecPrice}_{y,m}}{\text{ElecPrice}_{05,7}} \right) \times \left(\frac{\text{GasPrice}_{y,m}}{\text{GasPrice}_{05,7}} \right) \quad (9)$$

where $\text{Price}_{y,m}$ is the average residential real price of electricity in year (y) and month (m), Price_{05} is the average residential real price of electricity in 2005, $\text{HHIncome}_{y,m}$ is the average real income per household in a year (y) and month (m), HHIncome_{05} is the average real income per household in 2005, $\text{HHSize}_{y,m}$ is the average household size in a year (y) and month (m), HHSize_{05} is the average household size in 2005, $\text{HDD}_{y,m}$ is the revenue month heating degree days in year (y) and month (m), and HDD_{05} is the annual heating degree days for 2005.

Constructing XCool- Electric

To construct XCool index, the same procedures as in XHeat index are followed; the only difference is that cooling degree days are used instead of heating degree days.

Constructing XOther- Electric

Monthly estimates of non-weather sensitive sales can be derived in a similar fashion to space heating and cooling. Based on end-use concepts, other sales are driven by appliance and equipment saturation levels, appliance efficiency levels, average household size, real income, real prices, and billing days. The explanatory variable for other uses is defined as follows:

$$XOther_{y,m} = OtherIndex_y \times OtherUse_{y,m} \quad (10)$$

The methodology for constructing OtherIndex is the same as heating and cooling indices except for the fact that there is no weather variable used in this index.

Peak Forecast

The monthly peak forecast for AIC's eligible customer retail load was performed at the total Ameren Illinois level. Historical hourly data from 2010 to 2011 was collected while the corresponding daily temperatures were used for building the regression models. The daily temperatures are calculated by averaging the daily high and low values. The loads were at transmission level and excluded wholesale load.

Methodology:

Using the hourly input data from 2010 to 2011, a daily peak regression model and a daily energy regression model were constructed. A peak and energy model for every DS class (namely DS1, DS2, DS3A, DS3B, DS4 and DS5) was built. This is because each of these DS classes has a different weather response function. For example, DS1 is the most weather-sensitive class. Year 2010 was taken as a reference calendar year. The actual load for 2010 was weather normalized using the daily peak and energy models, by adopting the Unitized Load Calculation approach. This approach is briefly discussed below.

Unitized Load Calculation:

Using the actual hourly load data estimate the daily peak and daily average load. Calculate the Unitized Hourly Load using the equation shown below:

Daily peak designated as: $PK_{t(0)}$

Daily energy designated as: $AVG_{t(0)}$

Unitized Hourly Load:

$$D_{ht}(0) = \frac{MW_{ht}(0) - AVG_t(0)}{PK_t(0) - AVG_t(0)}$$

The same regression coefficients are used to run-through the normal weather for daily peak and energy.

Weather normalized daily peak designated as: $PK_t(0)$

Weather normalized daily energy designated as: $AVG_t(0)$

Normalized hourly load:

$$MW_{ht}(0) = AVG_t(0) + D_{ht}(0) \cdot (PK_t(0) - AVG_t(0))$$

Daily Peak Model

Daily peak loads were modeled using regression within the MetrixND software package. Daily peak load was the dependent variable, and the independent variables included temperature based variables, seasonal variables, day-type variables, calendar variables, and energy growth trend variable. Average daily temperature, defined as the arithmetic mean of the day's high and low temperatures, is the basis for all of the weather variable constructions. Temperature splines are then created from the average daily temperature variable to allow load to respond to temperature in a non-linear fashion. These temperature splines are also interacted with seasonal and weekend variables to allow the temperature response of load to change with respect to these variables (i.e. Load will respond more to an 80 degree day in July than in October, and more on a weekday than a weekend).

..

The daily peak model also includes independent binary variables representing each day of the week, each month of the year, and major holidays. This captures the change in load that is not due to weather variation, such as load reductions due to industrial customers and businesses that may not operate on weekends.

Statistical tests verify that the models fit the data quite well. The R-Squared statistic, which indicates the amount of variation in the dependent variable (load) that is explained by the model, is around 88% on an average. The Mean Absolute Percent Error (MAPE) of the models is around 4.5% on an average, indicating that over all of the years of the analysis, the average day has a small absolute error.

Daily Energy Model

The concept for building the daily energy models is the same as that of daily peak, except that the dependent y-variable is the sum of hourly loads. The R-squared statistic is around 90% on an average for the daily energy models. The MAPE is around 4%.

Forecasting Normal Weather Conditions for the Daily Peak Model

AIC defines normal for a weather element as the arithmetic mean of that weather element computed over the 10 year period from 2002-2011. Because daily average temperature is the weather variable of interest for the peak forecast, the daily average temperature for each date must be averaged over the 10 year period. Unfortunately, averaging temperatures by date (i.e. all January 1st values averaged, then all January 2nd values and so on) creates a series of normal temperatures that is relatively smooth (i.e. no extreme values) and therefore devoid of peak load making weather conditions. To ameliorate this situation, a routine known as the “rank and average” method is used. In this method, all 10 years of historical weather data are collected. For each summer and non-summer of each year, the respective degree day data is sorted from the highest value to the lowest. Then the sorted data is averaged across the 10 years, with all of the hottest days in each summer averaged with each other. Likewise, all of the coldest days in each non-summer season are averaged, while the mild days are averaged together.

After the weather has been averaged by the degree day rank, the days are “mapped” back to the actual weather of the reference calendar year, from each year for the historical period. For the forecast period, an average weather shape is used to map the degree days. This way, the “normal” degree days follow a realistic contour. The normal temperature series is run through the daily peak and daily energy forecast models to produce a normal peak load and a normal energy load forecast.

The year 2010 is used as the reference year. We call it the ‘Planning Calendar’. Once we have the normal peak and energy load forecast for 2010, using the unitized load approach discussed above, the normal hourly loads are constructed. This profile shape is extended to the future time periods (2013 to 2018 also called the ‘Actual Calendar’) after applying suitable calendar adjustments. In order to do this, the first step was to simulate the normal weather (from rank and average technique discussed above) from 2013 to 2018. The next step is to replicate the 24-hour profile shape (considered separately for each month) for each day into the forecast period, by considering the peak producing temperature, second peak producing temperature, and so on. Thus we have a profile shape for each day from 2013 to 2018.

Using the peak and energy models, we forecast the normal daily peak and energy loads for the same actual calendar time period. The unitized load formula is then applied to the forecasted values to come up with normal hourly loads for all the years from 2013 to 2018.

Final Forecast Steps

The MetrixLT software is used to apply the hourly shapes developed above under the monthly energy sales forecast. For example, for the month of January-2012 there are 744 hourly values and one energy forecast value. The 744 hourly values are shaped according

to the energy value. Suitable loss factors are applied to the shaped values to arrive at final hourly forecast. This is done for each DS class separately. The final hourly system values (and hence the monthly peaks) are obtained by aggregating the values from each DS class.

Switching Trends and Competitive Retail Market Analysis

It is important to note in any discussion of retail switching the inherent difficulty in projecting future activity. AIC necessarily must make some assumption of future switching levels given that 16-111.5(b) of the PUA requires a five year analysis of the projected balance of supply and demand. In making these assumptions, AIC has utilized an extension of existing trends and their best judgment to arrive at the expected values. This was accomplished by first establishing the current trend line utilizing actual switching data by customer class for the post rate freeze period (January 2007 through May 2012). AIC then reviewed these trends and using their qualitative judgment made adjustments such that the end result is a forecast generally characterized by increasing switching. Given the difficulties inherent with projecting switching, it is expected that subsequent switching projections for future planning periods could differ substantially, and thus will have a like effect upon the projection of AIC power supply requirements for eligible retail customers.

Residential

As of June 1, 2012, there were fourteen Alternative Retail Electric Suppliers (ARES) registered with both the ICC and AIC to serve residential customers in AIC territories, as compared to twenty eight so registered to serve non-residential customers in AIC territories (three of which are Subpart E RESs). Residential switching has increased over the last twelve month period such that as of June 1, 2012, 9.2% of residential usage of AIC was supplied by ARES (10.6% when RTP is considered). However, AIC expects the amount of load served by ARES will increase even more this summer as a result of the successful government referenda which passed in March 2012 and the resulting successful solicitations for supply. In addition, non-government aggregation switching continues to grow, most notably for residential and small commercial classes.

Residential switching could be positively influenced by an increase in the number of ARES willing to serve residential customers, aggressive marketing campaigns, the development of value added products and services and further expansion of government aggregation. It is worth noting that the amount of ARES approved to serve residential customers has increased from eight to fourteen in the last twelve months. Of course the relationship between market prices and the AIC tariff price will weigh significantly on future trends in residential switching. The near term trend due to all of these factors appears to be higher levels of residential switching to ARES.

In addition to the ARES options, residential customers may opt for real time pricing through a program administered for AIC by CNT Energy. Since program inception in 2007, participation in the program has been steadily increasing and is now approximately 1.4% of available load.

AIC estimates that the combination of residential switching to ARES and real time pricing will be greater than 67% of energy by the end of the five year planning period. But it should be noted that the variability in this forecast could be considerable and such variability could be driven by the aggressiveness of ARES marketing campaigns, customer acceptance and the headroom between ARES contracts and AIC fixed price tariffs. Due to the nature of a three year procurement cycle, forecasting switching is inherently difficult. During times of declining power prices, AIC's fixed tariff price will tend to be higher than the market rate, but in turn, during times of escalating power prices, we expect AIC to have a lower tariff price than the current market rate. This could lead to a return of residential customers to the AIC fixed price tariff in the future. AIC proposes that it monitor switching in the residential class and provide an updated residential switching forecast to the IPA in November 2012 and then again in March 2013 (this is consistent with the 2012 IPA procurement plan). Where warranted, the IPA may wish to consider utilizing this updated forecast for its final procurement quantities.

0-149 kW Non-Residential

This customer class has seen approximately 57% load switching since January 1, 2007 up from about 45% a year ago. Future switching patterns are difficult to predict due to uncertain market conditions. However, as long as market prices stay below the AIC tariff price, one could reasonably expect switching to continue its upward trend.

In addition, now that ARES have been successful in gaining significant switching among the larger industrial and commercial customer classes, it is reasonable to assume ARES will focus efforts on the smaller customer classes. Finally, customers in this class also have an option for real time pricing, giving them other alternatives to switch away from the fixed price tariff.

AIC estimates that switching in this class will be approximately 83% of load by the end of the five year planning period.

150-399 kW Non-Residential

This customer class has seen approximately 82% load switching since January 1, 2007 up from about 75% a year ago. Future switching patterns are difficult to predict due to uncertain market conditions. However, as long as market prices stay below the AIC tariff price, one could reasonably expect switching to continue its upward trend.

In addition, a key development is the ICC declaration that this class of customers is competitive with a transition period that became effective May 1, 2011. This means that customers currently taking fixed price supply from AIC will be allowed to continue until May 1, 2014, unless such customers switch to ARES or real time pricing before then, at which point such customers cannot return to AIC fixed price supply. Any customer that currently takes supply from ARES or from AIC real time pricing will not be able to return to AIC fixed price supply. Effective May 1, 2014, all customers must receive supply from either ARES or AIC real time pricing.

Given this development, AIC estimates that load switching in this class will be 100% by the end of the five year planning period.

400-999 kW Non-Residential

Section 16-113 (f) of the PUA declared this class to be competitive on June 1, 2010. As such, all customers are required to take supply under an ARES or the AIC real time pricing tariff. Therefore, this customer class assumes 100% switching and is therefore no longer considered part of the AIC fixed price load.

1,000 kW and Greater Non-Residential

This customer class is declared competitive and therefore these customers can no longer take the fixed price supply after May 31, 2008 and is therefore not included in the fixed price load.

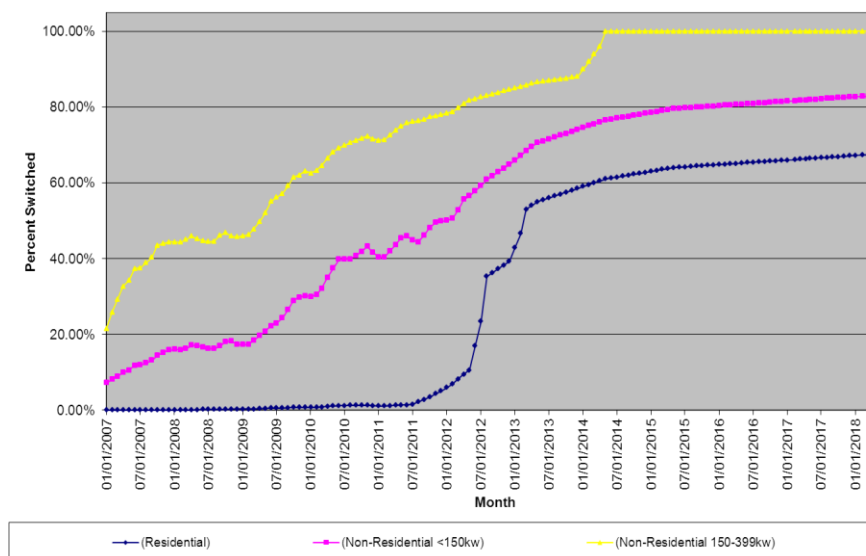
Street Lighting (DS5)

Although a small part of the fixed price load, AIC utilized its customer data system to estimate the quantity of load switching away from the fixed price tariff. This load switching is estimated to be approximately 24% as of June 1, 2012 and is projected to grow to about 41% by the end of the five year period.

Switching Patterns

As noted previously, it is reasonable to expect further switching among residential and small commercial customer classes to either real time pricing or ARES as such suppliers increase focus on smaller customer classes, current market prices stay below those in the AIC tariff and additional government aggregation referenda are contemplated. Expected values through May 31, 2018 are included in the graph below:

Expected Switching Forecast (Actual thru May 2012)



Known or Projected Changes to Future Loads

Known or projected changes to future loads include:

- 1) Customer switching estimates as previously discussed.
- 2) Potential incremental Energy Efficiency initiatives as discussed below.

Growth Forecasts by Customer Class

For the residential electric customer class, Ameren Illinois currently projects a 5-year Compound Annual Growth rate of 0.1%. Commercial growth rates for Ameren Illinois are projected to be 1.8% due to a major DS4 Customer expansion.

Impact of Energy Efficiency on Power Supply Forecast

Existing Energy Efficiency Programs

Section 12-103 (b) of Public Act 095-0481 and the ICC Order pursuant to the AIC three year energy efficiency plan establish specific requirements for Energy Efficiency programs that reduce energy consumption of delivery services customers. Please note that the impact of existing Energy Efficiency programs is included in all Power Supply forecast scenarios provided to the IPA. For the period June 1, 2013 through May 31, 2018, the values below represent the impact of existing Energy Efficiency programs on eligible retail customers (net of customer switching and at the MISO level):

2013	65,804 MWh
2014	57,132 MWh
2015	53,722 MWh
2016	51,701 MWh
2017	49,681 MWh

Impact of Energy Efficiency Building Codes or Appliance Standards

The AIC procurement plan forecast utilizes a statistical adjusted end use (SAE) model approach for the residential and commercial classes. The SAE modeling framework defines energy usage as the sum of energy used for heating equipment, cooling equipment and other equipment. The other end use incorporates the impact of the new lighting standard as well as efficiency improvements across other household appliances.

The models are based on the Energy Information Administration's annual energy outlook. The information from EIA includes the following:

- Updated equipment efficiency trends
- Updated equipment and appliance saturation trends
- Updated structural indices
- Updated annual heating, cooling, water heating & Non-HVAC indices

The effective reduction on eligible retail customers (net of customer switching and at the MISO level) for AIC is estimated to be as provided below. Please note that this impact is included in all Power Supply forecast scenarios provided to the IPA:

2013	130,251	MWh
2014	157,286	MWh
2015	177,969	MWh
2016	198,200	MWh
2017	213,150	MWh

Incremental Energy Efficiency

As provided to the IPA in the report "AIC EE IPA Submission Document Clean.doc", AIC estimates an additional 25,409 MWh of Energy Efficiency savings is possible for eligible retail customers (net of customer switching) should the IPA decide to pursue expansion of existing programs in its procurement plan. These savings are at the customer meter and are estimated to be approximately 27,117 MWh at the MISO level. Note that the Power Supply forecasts provided to the IPA do not include the impact of these incremental Energy Efficiency savings with the exception of one scenario which is labeled accordingly.

Capacity Forecast

It is noteworthy that FERC has approved the MISO Resource Adequacy Filing, Module E-1. Indications are that this change will become effective June 1, 2013 and will move the MISO capacity construct from monthly to annual with zonal differences. The timing of the new process will remain similar, with sufficiency requirements due in spring 2013.

The current transmission losses assumed in the AIC forecast are 2.36% and the reserve assumptions are 3.79%. It is likely that these values will be updated by MISO prior to the next procurement event. In past procurement cycles, AIC provided updated capacity quantities to the IPA once the revised transmission losses and reserves were published and prior to the procurement event.

Ameren Energy Forecast by Customer Class
Assumes Implementation of Incremental Energy Efficiency

Projected Monthly MWH Requirements							
Contract Month	DS1 MWH	DS2 MWH	DS3a MWH	DS5 MWH	QF MWH	Total Load MWH	Net Load MWh
June-13	468,591	141,471	29,473	15,345	(44,640)	654,880	610,240
July-13	612,201	151,715	31,488	15,304	(46,128)	810,708	764,580
August-13	598,355	148,360	30,921	15,930	(46,128)	793,566	747,438
September-13	426,616	134,747	28,329	17,462	(44,640)	607,155	562,515
October-13	325,940	126,232	26,597	18,789	(46,128)	497,558	451,430
November-13	358,346	121,037	25,562	20,728	(44,640)	525,673	481,033
December-13	472,702	122,371	25,817	22,455	(46,128)	643,346	597,218
January-14	508,815	118,040	21,139	24,030	(46,128)	672,023	625,895
February-14	414,838	115,975	16,944	21,150	(41,664)	568,907	527,243
March-14	365,872	107,370	12,007	18,943	(46,128)	504,193	458,065
April-14	287,415	101,247	7,724	18,291	(44,640)	414,677	370,037
May-14	291,432	104,166	0	15,867	(46,128)	411,465	365,337
June-14	408,555	114,630	0	14,816	(44,640)	538,000	493,360
July-14	537,246	123,670	0	14,797	(46,128)	675,714	629,586
August-14	527,578	121,747	0	15,424	(46,128)	664,749	618,621
September-14	377,146	111,304	0	16,928	(44,640)	505,377	460,737
October-14	288,976	105,061	0	18,246	(46,128)	412,283	366,155
November-14	319,530	101,480	0	20,158	(44,640)	441,169	396,529
December-14	424,659	103,334	0	21,870	(46,128)	549,863	503,735
January-15	459,891	100,512	0	23,439	(46,128)	583,842	537,714
February-15	376,807	99,548	0	20,661	(41,664)	497,016	455,352
March-15	333,928	92,991	0	18,533	(46,128)	445,452	399,324
April-15	263,268	88,492	0	17,922	(44,640)	369,682	325,042
May-15	268,725	91,825	0	15,571	(46,128)	376,121	329,993
June-15	378,971	101,568	0	14,539	(44,640)	495,077	450,437
July-15	501,117	110,163	0	14,520	(46,128)	625,800	579,672
August-15	493,979	109,104	0	15,135	(46,128)	618,219	572,091
September-15	353,799	100,395	0	16,610	(44,640)	470,803	426,163
October-15	271,622	95,379	0	17,896	(46,128)	384,897	338,769
November-15	301,580	92,674	0	19,778	(44,640)	414,032	369,392
December-15	403,022	94,912	0	21,457	(46,128)	519,391	473,263
January-16	439,843	92,961	0	22,996	(46,128)	555,799	509,671
February-16	368,718	92,665	0	20,271	(43,152)	481,654	438,502
March-16	321,441	87,230	0	18,182	(46,128)	426,853	380,725
April-16	253,881	83,696	0	17,613	(44,640)	355,190	310,550
May-16	260,071	87,390	0	15,275	(46,128)	362,736	316,608
June-16	367,407	96,571	0	14,261	(44,640)	478,240	433,600

July-16	486,120	104,654	0	14,243	(46,128)	605,016	558,888
August-16	479,024	103,621	0	14,846	(46,128)	597,491	551,363
September-16	342,446	95,355	0	16,291	(44,640)	454,092	409,452
October-16	262,533	90,542	0	17,553	(46,128)	370,629	324,501
November-16	291,306	87,971	0	19,398	(44,640)	398,675	354,035
December-16	389,309	90,027	0	21,044	(46,128)	500,380	454,252
January-17	424,063	88,216	0	22,552	(46,128)	534,832	488,704
February-17	348,610	87,939	0	19,829	(41,664)	456,378	414,714
March-17	309,677	82,828	0	17,830	(46,128)	410,335	364,207
April-17	244,477	79,473	0	17,241	(44,640)	341,191	296,551
May-17	250,748	82,932	0	14,979	(46,128)	348,658	302,530
June-17	355,034	91,568	0	13,984	(44,640)	460,586	415,946
July-17	470,236	99,155	0	13,966	(46,128)	583,357	537,229
August-17	463,320	98,158	0	14,556	(46,128)	576,034	529,906
September-17	330,563	90,378	0	15,978	(44,640)	436,919	392,279
October-17	252,814	85,749	0	17,216	(46,128)	355,778	309,650
November-17	280,354	83,300	0	19,018	(44,640)	382,672	338,032
December-17	374,832	85,198	0	20,631	(46,128)	480,662	434,534
January-18	408,098	83,519	0	22,109	(46,128)	513,726	467,598
February-18	335,412	83,210	0	19,439	(41,664)	438,061	396,397
March-18	297,999	78,356	0	17,478	(46,128)	393,833	347,705
April-18	235,281	75,152	0	16,901	(44,640)	327,333	282,693
May-18	241,584	78,402	0	14,682	(46,128)	334,669	288,541

Ameren Peak/Off-Peak Distribution of Energy and Average Load

Contract Month	Total Load (MWh)		Average Load (MWh)	
	On Peak	Off Peak	On Peak	Off Peak
Jun-13	314,673	295,567	983	739
Jul-13	403,628	360,952	1,147	921
Aug-13	397,358	350,080	1,129	893
Sep-13	273,808	288,707	856	722
Oct-13	248,661	202,769	676	539
Nov-13	233,572	247,460	730	619
Dec-13	288,125	309,092	858	758
Jan-14	314,007	311,888	892	796
Feb-14	265,116	262,127	828	745
Mar-14	221,600	236,464	660	580
Apr-14	198,577	171,460	564	466
May-14	182,222	183,115	542	449
Jun-14	260,007	233,353	774	608
Jul-14	333,989	295,596	949	754
Aug-14	316,396	302,225	942	741
Sep-14	234,596	226,142	698	589
Oct-14	199,969	166,186	543	442
Nov-14	182,483	214,046	600	515
Dec-14	250,229	253,507	711	647
Jan-15	255,999	281,715	762	690
Feb-15	229,477	225,876	717	642
Mar-15	200,048	199,277	568	508
Apr-15	173,761	151,281	494	411
May-15	154,666	175,327	483	414
Jun-15	246,195	204,242	699	555
Jul-15	322,331	257,341	876	684
Aug-15	294,689	277,402	877	680
Sep-15	218,691	207,472	651	540
Oct-15	177,073	161,696	503	412
Nov-15	178,797	190,595	559	476
Dec-15	234,308	238,956	666	610
Jan-16	228,874	280,798	715	662
Feb-16	223,184	215,317	664	598
Mar-16	197,073	183,652	536	488
Apr-16	155,483	155,068	463	404
May-16	156,764	159,844	467	392
Jun-16	233,290	200,311	663	544
Jul-16	271,091	287,797	847	679
Aug-16	309,004	242,359	840	645
Sep-16	208,022	201,430	619	525
Oct-16	160,034	164,467	476	403

Nov-16	176,706	177,329	526	462
Dec-16	218,102	236,150	649	579
Jan-17	231,349	257,355	689	631
Feb-17	206,285	208,429	645	592
Mar-17	188,010	176,197	511	469
Apr-17	139,809	156,742	437	392
May-17	158,360	144,170	450	368
Jun-17	228,011	187,935	648	511
Jul-17	260,697	276,532	815	652
Aug-17	294,595	235,311	801	626
Sep-17	187,370	204,909	586	512
Oct-17	160,083	149,567	455	382
Nov-17	168,840	169,192	502	441
Dec-17	199,624	234,910	624	554
Jan-18	233,423	234,175	663	597
Feb-18	197,839	198,558	618	564
Mar-18	174,085	173,620	495	443
Apr-18	142,041	140,653	423	366
May-18	152,051	136,490	432	348

Ameren

Peak Contract Volumes to Secure (MW)									
Contract Month	Projected Volumes (MW)	Swap Volume (MW)	2010 Portfolio Volume (MW)	2011 Portfolio Volume (MW)	2012 Portfolio Volume (MW)	LT Wind Portfolio Volume (MW)	SB 1652	Residual Volume (MW)	2013 IPA Procurement (MW)
Jun-13	983	0	0	750	0	47	650	(464)	0
Jul-13	1,147	0	0	850	0	28	650	(381)	0
Aug-13	1,129	0	0	900	0	30	650	(451)	0
Sep-13	856	0	0	650	0	44	650	(488)	0
Oct-13	676	0	0	550	0	71	650	(595)	0
Nov-13	730	0	0	550	0	89	650	(559)	0
Dec-13	858	0	0	700	0	74	650	(566)	0
Jan-14	892	0	0	750	0	78	650	(586)	0
Feb-14	828	0	0	700	0	72	650	(594)	0
Mar-14	660	0	0	600	0	83	650	(673)	0
Apr-14	564	0	0	500	0	90	650	(676)	0
May-14	542	0	0	550	0	70	650	(728)	0
Jun-14	774	0	0	0	0	45	650	79	0
Jul-14	949	0	0	0	0	28	650	271	0
Aug-14	942	0	0	0	0	32	650	260	0
Sep-14	698	0	0	0	0	42	650	6	0
Oct-14	543	0	0	0	0	71	650	(178)	0
Nov-14	600	0	0	0	0	93	650	(143)	0
Dec-14	711	0	0	0	0	70	650	(9)	0
Jan-15	762	0	0	0	0	82	650	30	0
Feb-15	717	0	0	0	0	72	650	(5)	0
Mar-15	568	0	0	0	0	79	650	(161)	0
Apr-15	494	0	0	0	0	90	650	(246)	0
May-15	483	0	0	0	0	73	650	(240)	0
Jun-15	699	0	0	0	0	43	200	456	0
Jul-15	876	0	0	0	0	27	200	649	100
Aug-15	877	0	0	0	0	32	200	645	50
Sep-15	651	0	0	0	0	42	200	409	0
Oct-15	503	0	0	0	0	74	200	229	0
Nov-15	559	0	0	0	0	89	200	270	0
Dec-15	666	0	0	0	0	70	200	396	0
Jan-16	715	0	0	0	0	86	200	429	0
Feb-16	664	0	0	0	0	69	200	395	0
Mar-16	536	0	0	0	0	76	200	260	0
Apr-16	463	0	0	0	0	94	200	169	0
May-16	467	0	0	0	0	70	200	197	0
Jun-16	663	0	0	0	0	43	0	620	0
Jul-16	847	0	0	0	0	31	0	816	0
Aug-16	840	0	0	0	0	29	0	811	0
Sep-16	619	0	0	0	0	42	0	577	0
Oct-16	476	0	0	0	0	78	0	398	0

Nov-16	526	0	0	0	0	85	0	441	0
Dec-16	649	0	0	0	0	74	0	575	0
Jan-17	689	0	0	0	0	82	0	607	0
Feb-17	645	0	0	0	0	72	0	573	0
Mar-17	511	0	0	0	0	76	0	435	0
Apr-17	437	0	0	0	0	99	0	338	0
May-17	450	0	0	0	0	66	0	384	0
Jun-17	648	0	0	0	0	43	0	605	0
Jul-17	815	0	0	0	0	31	0	784	0
Aug-17	801	0	0	0	0	29	0	772	0
Sep-17	586	0	0	0	0	44	0	542	0
Oct-17	455	0	0	0	0	74	0	381	0
Nov-17	502	0	0	0	0	85	0	417	0
Dec-17	624	0	0	0	0	77	0	547	0
Jan-18	663	0	0	0	0	82	0	581	0
Feb-18	618	0	0	0	0	72	0	546	0
Mar-18	495	0	0	0	0	76	0	419	0
Apr-18	423	0	0	0	0	99	0	324	0
May-18	432	0	0	0	0	66	0	366	0

Ameren

Off Peak Contract Volumes to Secure (MW)									
Contract Month	Projected Volumes (MW)	Swap Volume (MW)	2010 Portfolio Volume (MW)	2011 Portfolio Volume (MW)	2012 Portfolio Volume (MW)	LT Wind Portfolio Volume (MW)	SB 1652	Residual Volume (MW)	2013 IPA Procurement (MW)
Jun-13	739	0	0	550	0	48	650	(509)	0
Jul-13	921	0	0	700	0	40	650	(469)	0
Aug-13	893	0	0	700	0	50	650	(507)	0
Sep-13	722	0	0	600	0	48	650	(576)	0
Oct-13	539	0	0	500	0	86	650	(697)	0
Nov-13	619	0	0	500	0	93	650	(624)	0
Dec-13	758	0	0	650	0	69	650	(611)	0
Jan-14	796	0	0	700	0	86	650	(640)	0
Feb-14	745	0	0	650	0	79	650	(634)	0
Mar-14	580	0	0	550	0	92	650	(712)	0
Apr-14	466	0	0	450	0	98	650	(732)	0
May-14	449	0	0	450	0	77	650	(728)	0
Jun-14	608	0	0	0	0	50	650	(92)	0
Jul-14	754	0	0	0	0	40	650	64	0
Aug-14	741	0	0	0	0	48	650	43	0
Sep-14	589	0	0	0	0	50	650	(111)	0
Oct-14	442	0	0	0	0	86	650	(294)	0
Nov-14	515	0	0	0	0	89	650	(224)	0
Dec-14	647	0	0	0	0	72	650	(75)	0
Jan-15	690	0	0	0	0	82	650	(42)	0
Feb-15	642	0	0	0	0	79	650	(87)	0
Mar-15	508	0	0	0	0	96	650	(238)	0
Apr-15	411	0	0	0	0	98	650	(337)	0
May-15	414	0	0	0	0	74	650	(310)	0
Jun-15	555	0	0	0	0	53	200	302	0
Jul-15	684	0	0	0	0	41	200	443	0
Aug-15	680	0	0	0	0	48	200	432	0
Sep-15	540	0	0	0	0	50	200	290	0
Oct-15	412	0	0	0	0	82	200	130	0
Nov-15	476	0	0	0	0	93	200	183	0
Dec-15	610	0	0	0	0	72	200	338	0
Jan-16	662	0	0	0	0	79	200	383	0
Feb-16	598	0	0	0	0	78	200	320	0
Mar-16	488	0	0	0	0	100	200	188	0
Apr-16	404	0	0	0	0	94	200	110	0
May-16	392	0	0	0	0	77	200	115	0
Jun-16	544	0	0	0	0	53	0	491	0
Jul-16	679	0	0	0	0	37	0	642	0
Aug-16	645	0	0	0	0	52	0	593	0
Sep-16	525	0	0	0	0	50	0	475	0
Oct-16	403	0	0	0	0	79	0	324	0
Nov-16	462	0	0	0	0	97	0	365	0

Dec-16	579	0	0	0	0	69	0	510	0
Jan-17	631	0	0	0	0	82	0	549	0
Feb-17	592	0	0	0	0	79	0	513	0
Mar-17	469	0	0	0	0	100	0	369	0
Apr-17	392	0	0	0	0	90	0	302	0
May-17	368	0	0	0	0	80	0	288	0
Jun-17	511	0	0	0	0	53	0	458	0
Jul-17	652	0	0	0	0	37	0	615	0
Aug-17	626	0	0	0	0	52	0	574	0
Sep-17	512	0	0	0	0	48	0	464	0
Oct-17	382	0	0	0	0	82	0	300	0
Nov-17	441	0	0	0	0	97	0	344	0
Dec-17	554	0	0	0	0	67	0	487	0
Jan-18	597	0	0	0	0	82	0	515	0
Feb-18	564	0	0	0	0	79	0	485	0
Mar-18	443	0	0	0	0	100	0	343	0
Apr-18	366	0	0	0	0	90	0	276	0
May-18	348	0	0	0	0	80	0	268	0

Ameren Capacity Projections

(Capacity Includes Losses and Reserves)

Month	Pk. Load	Capacity	Purch. %	2013 Capacity Need	2010 Purchases	2011 Purchases	2012 Purchases	2013 Purchases
June-13	1,596	1,696	100%	1,950	0	0	1,660	290
July-13	1,820	1,935	100%		0	0		
August-13	1,829	1,944	100%		0	0		
Sept-13	1,557	1,655	100%		0	0		
October-13	1,006	1,069	100%		0	0		
Nov-13	986	1,048	100%		0	0		
Dec-13	1,113	1,183	100%		0	0		
January-14	1,200	1,275	100%		0	0		
February-14	1,038	1,104	100%		0	0		
March-14	871	925	100%		0	0		
April-14	840	893	100%		0	0		
May-14	947	1,007	100%		0	0		
June-14	1,301	1,383	70%	1,160	0	0	1,110	50
July-14	1,514	1,609	70%		0	0		
August-14	1,551	1,648	70%		0	0		
Sept-14	1,260	1,339	70%		0	0		
October-14	815	866	70%		0	0		
Nov-14	823	875	70%		0	0		
Dec-14	925	984	70%		0	0		
January-15	1,035	1,101	70%		0	0		
February-15	905	962	70%		0	0		
March-15	757	805	70%		0	0		
April-15	751	798	70%		0	0		
May-15	861	915	70%		0	0		
June-15	1,186	1,261	35%	540	0	0	0	540
July-15	1,394	1,482	35%		0	0		
August-15	1,446	1,537	35%		0	0		
Sept-15	1,174	1,248	35%		0	0		
October-15	727	772	35%		0	0		
Nov-15	763	811	35%		0	0		
Dec-15	869	924	35%		0	0		
January-16	978	1,040	35%		0	0		
February-16	842	896	35%		0	0		
March-16	710	755	35%		0	0		
April-16	707	751	35%		0	0		
May-16	842	895	35%		0	0		
June-16	1,141	1,213	0%	0	0	0	0	0
July-16	1,334	1,418	0%		0	0		
August-16	1,395	1,483	0%		0	0		
Sept-16	1,126	1,197	0%		0	0		
October-16	698	742	0%		0	0		
Nov-16	726	772	0%		0	0		
Dec-16	849	903	0%		0	0		
January-17	941	1,001	0%		0	0		

February-17	829	881	0%		0	0		
March-17	680	723	0%		0	0		
April-17	670	712	0%		0	0		
May-17	794	844	0%		0	0		
June-17	1,099	1,168	0%		0	0		
July-17	1,295	1,377	0%		0	0		
August-17	1,341	1,425	0%		0	0		
Sept-17	1,119	1,190	0%		0	0		
October-17	690	733	0%		0	0		
Nov-17	674	716	0%	0	0	0	0	0
Dec-17	817	868	0%		0	0		
January-18	907	964	0%		0	0		
February-18	803	854	0%		0	0		
March-18	657	699	0%		0	0		
April-18	665	707	0%		0	0		
May-18	760	808	0%		0	0		

Ameren RPS Calculations

(Detail on long-term purchases excluded to avoid revealing confidential price information for the single PV winner of that procurement; to the extent such information may be imputed from other data presented, the IPA respectfully notes that the information will be two years old at the time the ICC approves the 2013 Procurement Plan and is, therefore, stale and less commercially sensitive with respect to any future renewable resource procurement events.)

Plan Year	RPS Calculation				
	REC Target	Wind Target	PV Target	DG Target	Budget
2013	1,107,877	830,908	16,618	5,539	\$11,627,681
2014	844,744	633,558	25,342	6,336	\$10,287,942
2015	644,050	483,038	38,643	6,441	\$9,695,547
2016	655,319	491,489	39,319	6,553	\$9,331,091
2017	698,140	523,605	41,888	6,981	\$8,970,536

LT Purchases (Price Confidential)				
RECs	Wind RECs	PV RECs	Price	Total \$
600,000	596,571	3,429		
600,000	596,571	3,429		
600,000	596,571	3,429		
600,000	596,571	3,429		
600,000	596,571	3,429		

SB 1652 Purchases							
Wind RECs	Wind \$	PV RECs	PV \$	Other RECs	Other \$	Total RECs	Total \$
415,655	\$468,079	13,165	1,275,880	107,200	\$90,902	536,020	\$1,834,861
353,101	\$469,624	5,265	459,171	67,000	\$83,350	425,366	\$1,012,145
383,345	\$802,858	5,465	506,671	20,000	\$48,000	408,810	\$1,357,529
380,280	\$1,590,690	8,965	824,171	40,000	\$193,000	429,245	\$2,607,861
251,767	\$1,238,293	2,629	216,862	0	\$0	254,396	\$1,455,155

Remaining Target and Net Budget						
Remaining REC Target	Purchased RECs	% Hedged	Remaining Wind Target	Remaining PV Target	Remaining DG Target	Remaining Budget
(28,143)	1,136,020	103%	(181,318)	24	5,539	\$2,412,820
(180,622)	1,025,366	121%	(316,114)	16,648	6,336	\$1,565,797
(364,760)	1,008,810	157%	(496,878)	29,749	6,441	\$976,018
(373,926)	1,029,245	157%	(485,362)	26,925	6,553	(\$596,770)
(156,256)	854,396	122%	(324,733)	35,830	6,981	\$45,381



Electric Energy Efficiency Compliance

With 220 ILCS 5/Sec. 16-111.5B

(Provisions Relating to Energy Efficiency Procurement)

An Accompaniment to AIC's Procurement Submission

Prepared Pursuant to Section 16-111.5 of the Illinois Public Utilities Act

Program Year:

June 1, 2013 – May 31, 2014

Ameren Illinois Company

July 12, 2012

Table of Contents

1.0	<u>Submission Summary</u>	26
1.1	<u>Introduction</u>	26
1.2	<u>Background</u>	28
1.3	<u>Collaboration</u>	29
1.4	<u>Analysis and Rigor</u>	30
1.5	<u>Reservation of Rights</u>	31
2.0	<u>Demonstration of Compliance</u>	31
2.1	<u>Building Codes and Appliance Standards</u>	31
2.2	<u>Assessment of Opportunities to Expand Programs</u>	31
2.3	<u>Potential Study</u>	32
2.4	<u>Identification of Programs</u>	32
2.5	<u>Analysis Showing a Reduction in Overall Cost of Service</u>	34
2.6	<u>Analysis Showing How The Cost of Energy Compares to Prevailing Cost of Supply</u>	35
2.7	<u>An Estimated Energy Savings Goal</u>	36
2.8	<u>Impact on Procurement</u>	38
2.9	<u>Third-Party Solicitation</u>	39
2.10	<u>Collaboration</u>	40
2.11	<u>Cost Recovery and Budget</u>	40
2.12	<u>Estimated Costs to Acquire Additional Energy Efficiency Measure</u>	42
	<u>Appendix 1: SB3811</u>	42
	<u>Appendix 2: Program Descriptions</u>	48
	A) <u>Expansion of Current Programs</u>	48
	B) <u>New Programs</u>	50
	<u>Appendix 3: Potential Study</u>	52
	<u>Appendix 4: Third Party RFP</u>	52
	<u>Appendix 5: Third Party Bids (CONFIDENTIAL)</u>	52
	<u>Appendix 6: Detailed Analyses (CONFIDENTIAL)</u>	52

List of Tables

<u>Table 1: Program Assessment Results: TRC</u>	33
<u>Table 2: Program Assessment Results: UCT</u>	35
<u>Table 3: Total Y6 Estimated Savings and Costs</u>	37
<u>Table 4: Savings Attributable To Eligible Retail Customers</u>	38
<u>Table 5: Costs and Savings</u>	41

1.0 Submission Summary

1.1 Introduction

This submission is being provided by Ameren Illinois Company (“AIC” or the “Company”) to the Illinois Power Agency (“IPA”) for the purpose of complying with the requirements of Section 16-111.5B (“Section”) of the Illinois Public Utilities Act (“Act”), 220 ILCS 5/16-111.5B. As instructed by the Section, this is being provided as an accompaniment to AIC’s procurement plan prepared pursuant to Section 16-111.5 of the Act.

220 ILCS 5/16-111.5B originated in 2011 as SB1652 and it is expected to be revised in 2012 by SB3811.¹ This submission conforms to both the current and future legislation, and the relevant sections of this submission contain information pertaining to the revised legislation where noted. In this manner, AIC’s intention is that both forms (original and revised) of the Section are addressed in the event the legislation is enacted during the course of the procurement process.

As an initial matter, and as more fully explained below, AIC contends that the additional estimated savings that are required to be assessed by AIC pursuant to the current legislation should not be pursued because the current legislation pertains to only eligible retail customers as that term is defined in 220 ILCS 5/16-111.5 of the Act². AIC contends that the IPA should not pursue the additional estimated savings under the current statute for at least the following reasons:

- The current Section’s estimated savings programs and measures failed the Total Resource Cost (“TRC”) Test³ and have been found to not be cost-effective. This result is attributable to

¹ On May 30, 2011, SB3811 passed both chambers of the Illinois General Assembly and awaits signature by the Governor. A copy of SB3811, as passed by the General Assembly, is provided as Appendix 1.

² “Eligible retail customers” ... means those retail customers that purchase power and energy from the electric utility under fixed-price bundled service tariffs, other than those retail customers whose service is declared or deemed competitive under Section 16-113 and those other customer groups specified in this Section, including self-generating customers, customers electing hourly pricing, or those customers who are otherwise ineligible for fixed-price bundled tariff service. (220 ILCS 5/16-111.5)

³ The Section states “the term “cost-effective” shall have the meaning set forth in subsection (a) of Section 8-103 of this Act”. Subsection (a) of Section 8-103, in turn, references the Illinois Power Agency Act, which defines cost-effective as:” “Total resource cost test” or “TRC test” means a standard that is met if, for an investment in energy efficiency or demand-response measures, the benefit-cost ratio is greater than one. The benefit-cost ratio is the ratio of the net present value of the total benefits of the program to the net present value of the total costs as calculated over the lifetime of the measures. A total resource cost test compares the sum of avoided electric utility costs, representing the benefits that accrue to the system and the participant in the delivery of those efficiency measures, as well as other

the fact that, under the current Section, the same costs that would be expended for those customers not declared competitive would need to be incurred, however only the savings attributable to the eligible retail customer can be used as the benefit. The resulting TRC for only eligible retail customers is 0.38 (negative TRC).

- The current legislation requires that only eligible retail customers provide cost recovery. This provision would require a separate, higher cost recovery value for customers taking fixed price service from the Company, consisting mostly of residential and small commercial customers. This greater cost recovery amount for utility-supplied customers would create an incentive for fixed price customers to switch to an alternative supplier, thereby removing themselves from the pool of “eligible retail customers”. This provision, therefore, creates instability in the cost recovery mechanism. As an ever increasing number of customers switch to alternative suppliers, remaining eligible retail customers will be burdened with increased cost responsibility, further increasing the price incentive to switch. While it would be possible to assess an incremental charge to “eligible retail customers” only, participation in incremental energy efficiency measures could not be limited to the same group.
- It would not be possible or practical to discern which eligible retail customer is acquiring savings from the Section 8-103 program versus the Section 16-111.5B program. It would also be counter to what AIC understands to be the spirit of Section 16-108 Act,⁴ which attempts to ensure comparability of delivery service costs between those who choose to take utility provided power and energy and those who choose to take power and energy provided from an alternative supplier.
- It is not reasonable or operationally possible to discern and/or discretely select eligible retail customers and provide them with program offerings from AIC’s customer population during program implementation.
- Since the inception of the AIC energy efficiency portfolio, programs have been available to

quantifiable societal benefits, including avoided natural gas utility costs, to the sum of all incremental costs of end-use measures that are implemented due to the program (including both utility and participant contributions), plus costs to administer, deliver, and evaluate each demand-side program, to quantify the net savings obtained by substituting the demand-side program for supply resources. In calculating avoided costs of power and energy that an electric utility would otherwise have had to acquire, reasonable estimates shall be included of financial costs likely to be imposed by future regulations and legislation on emissions of greenhouse gases.” For the purposes of the assessment conducted in conjunction with this submission, only the benefits to electric customers were considered for the TRC analysis.

⁴ “Delivery services shall be priced and made available to all retail customers electing delivery services in each such class on a nondiscriminatory basis regardless of whether the retail customer chooses the electric utility, an affiliate of the electric utility, or another entity as its supplier of electric power and energy.” (220 ILCS 5/16-108(c))

all AIC customers. Over several years our implementers, our 700 trade allies and over 1,000,000 customers have been trained and come to expect that all energy efficiency programs are available to all customers regardless of their choice of supplier. It would not be feasible to expand our existing programs and change the eligibility requirements to only eligible retail customers that represent a limited subset of the current target population for similar programs that have been in place for several years. The costs to educate the implementers and trade allies on the eligibility differences and the confusion it would create among the customer base would place extra costs on the programs and erode the benefits.

Notwithstanding the above, in order to be compliant with the current Section *and* with the expectation that the revised Section of SB3811 will become law during the procurement process, AIC submits the assessments and materials required by both the current Section and the revised Section by way of this submission.

1.2 Background

AIC's first electric energy efficiency and demand response plan was approved by the Illinois Commerce Commission ("Commission" or "ICC") in Docket No. 07-0539. Being both a gas and electric utility and recognizing the benefits of an integrated dual fuel savings portfolio of services for its customers, AIC also received approval by the Commission for a voluntary gas energy efficiency plan on October 15, 2008 (Docket No. 08-0104) (collectively referred to as "Plan 1"). Consistent with this philosophy, AIC filed and was approved for an integrated dual fuel portfolio Plan ("Plan 2")⁵ for PY 4, 5, and 6 represented by June 1 through May 31 for the years 2011, 2012, and 2013.

This submission to the IPA pertains to a single program year of savings and costs for Year 6 (Y6) (June 1, 2013 – May 31, 2014) of the AIC energy efficiency portfolio, as this is the first required submission of additional energy efficiency savings under Section 16-111.5B and, as an extension of AIC's Section 8-103 program, it pertains to the last year of the current Plan 2 cycle. Since next year's 2013 submission will coincide with the portfolio's next three year cycle, AIC intends to

⁵ The Act specifies that a gas utility affiliated with an electric utility shall integrate gas and electric efficiency measures into a single program.

submit a three year savings plan to the IPA and the ICC in 2013 that will satisfy the three year requirements of both Section 8-103 and Section 16-111.5B for Y7, 8 and 9 (June 1, 2014 – May 31, 2017).

It is clear and evident that the Section's intent was for the additional savings and costs to append to Section 8-103 while keeping the accountability for each provision of the Act separate. This is evidenced by the Section's requirement to expand Section 8-103 programs and facilitate cost recovery through the same rider, to not subject the funding of such expansion to the limitations set forth in 8-103(d) and to not incorporate the annual review of incremental savings goals set forth in 8-103(f) (as those incremental savings goals are set subject to limits set forth in 8-103(d)). In addition, it would be costly (with little benefit) and unduly burdensome on utilities and customers to attempt to discern which savings and costs pertain to which Section as implementation occurs.

Therefore, to the extent the IPA includes any new or expanded energy efficiency program in its procurement plan; AIC would expect that any resulting savings from such a program will count towards its savings goals set forth in 8-103(f). As a practical matter, in an effort to maximize efficiencies and minimize cost impacts to ratepayers, this means that AIC would functionally implement those programs approved via Section 16-111.5B as part of a single energy efficiency portfolio as opposed to two separate portfolios. The same would be assumed for costs as explained in part 2.15.

1.3 Collaboration

AIC performed numerous activities to seek collaboration and provide transparency for this submission and the process during 2011-2012, including:

- Meeting with ICC Staff;
- Meeting with the director of the IPA;
- Meeting with the Illinois stakeholder advisory group; and
- Meeting with interested key stakeholders, which included full disclosure of bids and analyses.

1.4 Analysis and Rigor

Consistent with ICC directives, AIC has actively participated in the development of a statewide Technical Resource Manual (“TRM”)⁶ which is anticipated to become the guiding document and tool for determining energy efficiency measure savings in Illinois and which the Illinois utilities are already implementing. Therefore all proposals for the Section’s new and expanded programs were analyzed using those measure values reflected in the TRM as of the date of this submission. Besides creating consistency with statewide accepted values, using TRM values provides for seamless compatibility and integration with AIC’s current Section 8-103 energy efficiency portfolio and provides reasonable confidence in the methodology used to determine the savings estimates provided in this submission.⁷

To add rigor, expertise and independence to the analysis for this submission, AIC engaged the national consulting firm of Applied Energy Group (“AEG”) who utilized the robust “BENCOST” modeling software to determine measure savings and cost-effectiveness. BENCOST is an open-source spreadsheet tool that allows full transparency. AEG has intimate knowledge of energy efficiency programs in Illinois by virtue of developing the 3-year Plan for Nicor’s portfolio and being engaged for consulting services with AIC for 2 years prior to this engagement. AEG performed the analysis included in this submission and remains engaged to address any questions concerning it.

All estimated savings referenced in this submission represent what is commonly referred to as “net” savings, as opposed to “gross” savings.⁸ As reflected in the accompanying Excel workbook analyses, which are submitted confidentially to the IPA, AIC applied the relevant and most recent

⁶ ICC required that Illinois utilities collaborate with the stakeholder group to develop a statewide TRM (AIC docket #10-0568 in addition to Nicor, ComEd and Integrys Plan 2 dockets).

⁷ AIC notes that any confidence arising from use of TRM measure savings values is contingent on the successful completion of the TRM.

⁸ The “gross” energy impact is the change in the energy consumption and demand that results directly from program related actions taken by energy consumers that participate in the programs regardless of the extent or nature of program influence on these actions. “Net” energy impact is that percentage of gross energy impact attributable to the program. $NTG = (1 - \text{freeridership} + \text{spillover})$, where “freeridership” refers to savings participants would have experienced in the absence of the program, and spillover refers to savings incurred by non-participants who did not claim assistance for additional implementation of measures supported by the program. Source: EPA’s *Model Energy Efficiency Program Impact Evaluation Guide*, http://www.epa.gov/cleanenergy/documents/suca/evaluation_guide.pdf.

net-to-gross (“NTG”) ratios used by the independent evaluators who evaluate AIC’s programs to determine net savings estimates. AIC notes that final year net savings determinations are subject to NTG ratios and measure values as determined by the independent evaluators and are subject to change.

1.5 Reservation of Rights

AIC makes this submission in accordance with the Act, but notes that it is premised on the information and materials known at the time of the submission. To the extent circumstances beyond AIC’s control change (e.g., a program or measure is no longer offered by an implementer, independent evaluator changes in values, etc), AIC reserves the right to update, revise or amend this submission, including AIC’s positions reflected herein, as appropriate.

2.0 Demonstration of Compliance

As set forth in the 111.5B(a), “[b]eginning in 2012, procurement plans prepared pursuant to Section 16.11.5 of this Act shall be subject to” certain additional requirements relating to energy efficiency. As set forth below, this submission contains the information and materials called for by the Act.

2.1 Building Codes and Appliance Standards

“(a)(1) The analysis included pursuant to paragraph (2) of subsection (b) of Section 16-111.5 shall also include the impact of energy efficiency building codes or appliance standards, both current and projected.”

The impact of building codes and appliance standards were used during the development of this submission and are explicitly incorporated in the AIC forecast, separately accompanying this submission.

2.2 Assessment of Opportunities to Expand Programs

“(a)(2) The procurement plan components described in subsection (b) of Section 16-111.5 shall also include an assessment of opportunities to expand the programs promoting energy efficiency measures that have been offered under plans approved pursuant to Section 8-103 of this Act or to implement additional cost-effective energy efficiency programs or measures.”

This assessment is being provided to satisfy this requirement and is an accompaniment to the AIC forecast.

2.3 Potential Study

“(a)(3) In addition to the information provided pursuant to paragraph (1) of subsection (d) of Section 16-111.5 of this Act, each Illinois utility procuring power pursuant to that Section shall annually provide to the Illinois Power Agency by July 15 of each year, or such other date as may be required by the Commission or Agency, an assessment of cost-effective energy efficiency programs or measures that could be included in the procurement plan. The assessment shall include the following:

(A) A comprehensive energy efficiency potential study for the utility's service territory that was completed within the past 3 years.”

Please refer to Appendix 3 for the AIC energy efficiency potential study, which was completed in 2010.

2.4 Identification of Programs

“(a)(3)(C) Identification of new or expanded cost-effective energy efficiency programs or measures that are incremental to those included in energy efficiency and demand response plans approved by the Commission pursuant to Section 8-103 of this Act and that would be offered to all retail customers whose electric service has not been declared competitive under Section 16-113 of this Act and who are eligible to purchase power and energy from the utility under fixed-price bundled service tariffs, regardless of whether such customers actually do purchase such power and energy

from the utility eligible retail customers.”⁹

In terms of the current requirement, as noted above, programs specifically pertaining to “eligible retail customers” failed the TRC test and should not be implemented by the IPA. In terms of the revised requirement, which is expected to become law, Table 1 below identifies the new and expanded programs called for by the revised legislation.¹⁰ Additionally, AIC provides a summary of those programs: (1) currently being offered by AIC and other utilities in Illinois under plans approved pursuant to Section 8-103, (2) additional programs that resulted from the bidding process and therefore were assessed by AEG for expansion or inclusion, (3) identification of those programs that passed the TRC test, and (4) those programs that were included in the estimated MWH savings goal submitted by AIC by way of this submission.¹¹

Table 1: Program Assessment Results: TRC

RESIDENTIAL (Expanded):	Passed Cost-Effectiveness Test (TRC)	Included in Estimated MWH Goal	Estimated net MWH Savings¹² (those not declared competitive)
Multi-Family	X	X	2,928
New Construction	X	X	398
Lighting	X	X	20,813
Moderate Income			
Energy Efficient Products			
Home Energy Performance*			
Appliance Recycling			
Behavioral Modification*			
Heating and Cooling			
RESIDENTIAL (New):			

⁹ As noted in the prefatory section of this submission, the quoted portion of the Act contains both the current version of the Section and the revised version of the Section (revisions reflect those set forth by SB3811).

¹⁰ Please refer to the documents comprising Appendix 4, 5, 6 for further information.

¹¹ Appendix 2 contains a description of programs whose savings were included the estimated MWH savings goal. Please refer to Appendix 6 for further analyses.

¹² Final year net savings determinations are subject to NTG ratios and measure values as determined by the independent evaluators and are subject to change.

Efficiency Kits*	X	X	2,303
All Electric Homes	X	X	12,723
CFL Distribution	X	X	5,048
Smart Thermostat**	X		
Home Area Network			
SMALL BUSINESS¹³ (Expanded)			
Prescriptive*	X	X	7,413
Retro-commissioning			
SMALL BUSINESS (New)			
Direct Install*	X	X	19,208
Upstream Lighting			
TOTAL			70,834

*Multiple similar programs were proposed by third party vendors

**Though passed TRC, was not considered due to the program design.

2.5 Analysis Showing a Reduction in Overall Cost of Service

“(a)(3)(D) Analysis showing that the new or expanded cost-effective energy efficiency programs or measures would lead to a reduction in the overall cost of electric service.”

AIC performed a “Ratepayer Impact Measure” (“RIM”) test to determine if the programs identified above would lead to a reduction in the overall cost of electric service. The RIM test examines the potential impact the energy efficiency program has on electric rates overall.¹⁴ A RIM test result of greater than 1.0 indicates a reduction in the overall cost of electric service (the reduced revenue and program cost is greater than utility savings). As reflected in the documents comprising Appendix 4,

¹³ The Section specifies that customers included in this analysis are all retail customers whose electric service has not been declared competitive. For AIC that are those customers whose annual demand is 150KW and below.

¹⁴ EPA’s “Understanding Cost-Effectiveness of Energy Efficiency Programs”, *A Resource of the National Action Plan For Energy Efficiency*, November 2008. <http://www.epa.gov/cleanenergy/documents/suca/cost-effectiveness.pdf>

none of the programs passed the RIM test (none were greater than 1.0).

2.6 Analysis Showing How The Cost of Energy Compares to Prevailing Cost of Supply

“(a)(3)(E) Analysis of how the cost of procuring additional cost-effective energy efficiency measures compares over the life of the measures to the prevailing cost of comparable supply.”

AIC performed a “Utility Cost Test” (“UCT”) to determine if the cost of procuring the cost-effective energy efficiency measures over the life of the measures compares positively to the prevailing cost of comparable supply. The UCT allows utilities to evaluate costs and benefits of energy efficiency programs (and/or demand response and distributed generation) on a comparable basis with supply-side investments. A positive UCT indicates that energy efficiency programs are lower-cost approaches to meeting load growth than wholesale energy purchases and new generation resources (including delivery and system costs). A positive UCT (greater than 1) indicates that the total costs to save energy are less than the costs of the utility delivering the same power. A positive UCT also shows that customer average bills will eventually go down if efficiency is implemented.¹⁵ Table 2 indicates those programs that passed the UCT.¹⁶

Table 2: Program Assessment Results: UCT¹⁷

RESIDENTIAL (Expanded):	Passed Utility Cost Test (UCT)	Included in Estimated MWH Goal***	Estimated net MWH Savings¹⁸ (those not declared competitive)
Multi-Family	X	X	2,928
New Construction	X	X	398
Lighting		X	20,813
Moderate Income	X		

¹⁵ EPA’s “Understanding Cost-Effectiveness of Energy Efficiency Programs”, *A Resource of the National Action Plan For Energy Efficiency*, November 2008. <http://www.epa.gov/cleanenergy/documents/suca/cost-effectiveness.pdf>

¹⁶ Refer to Appendix 4 for further analyses.

¹⁷ Again, programs do not include segments that have been delegated to the Illinois Department of Commerce and Economic Opportunity (“DCEO”) under Section 8-103.

¹⁸ Final year net savings determinations are subject to NTG ratios and measure values as confirmed by the independent evaluators and are subject to change.

Energy Efficient Products

Home Energy Performance**

Appliance Recycling

Behavioral Modification*

Heating and Cooling

RESIDENTIAL (New):

Efficiency Kits*	X	X	2,303
------------------	---	---	-------

All Electric Homes	X	X	12,723
--------------------	---	---	--------

CFL Distribution	X	X	5,048
------------------	---	---	-------

Smart Thermostat	X		
------------------	---	--	--

Home Area Network

SMALL BUSINESS¹⁹ (Expanded)

Prescriptive*	X	X	7,413
---------------	---	---	-------

Retro-commissioning

SMALL BUSINESS (New)

Direct Install*	X	X	19,208
-----------------	---	---	--------

Upstream Lighting

TOTAL			70,834
--------------	--	--	---------------

*Multiple similar programs were proposed by third party vendors

**A proposed third party HEP program passed UCT but does not meet RFP requirements due to duplicating current in-market program.

***Based on TRC test results which satisfies the requirement that estimated savings goal include cost-effective savings

2.7 An Estimated Energy Savings Goal

“(a)(3)(F) An energy savings goal, expressed in megawatt-hours, for the year in which the measures will be implemented.”

¹⁹ The Section pertaining to the revised legislation specifies that customers included in this analysis are those all retail customers whose electric service has not been declared competitive. For AIC, that includes customers whose annual demand is 150KW and below.

In terms of the current requirement, measures specifically pertaining to “eligible retail customers” failed the TRC test and should not be implemented by the IPA. Therefore, AIC could not reasonably calculate an estimated energy savings goal that would consistent with the current Section.

However, in terms of the revised Section, as indicated in Tables 1 and 2 above, the estimated net savings goal for cost-effective programs that pass the UCT test would be 70,834 MWH. The following table sets forth the estimated savings goal, as well as the estimated costs that could be incurred in achieving those additional savings. For the convenience of the IPA, AIC also includes a comparison between the estimated savings and costs for those programs and measures called for in the revised Section to the estimated savings and costs associated with AIC’s current 8-103 Plan 2.

Table 3: Total Y6 Estimated Savings and Costs²⁰

Y6: June 1, 2013- May 31, 2014	Net MWH Savings (those not declared competitive)²¹	Costs (those not declared competitive)
Section 8-103	216,495	\$45,912,310
Section 16-111.5B	70,834	\$27,328,868
Total Y6	287,329	\$73,241,178
Change	+33%	+60%

As with the programs pertaining to Section 8-103, and especially since this is an expansion of the current portfolio (reflecting an expansion of current programs in the portfolio), AIC requests that the IPA explicitly state in its procurement plan that it is appropriate for AIC maintain portfolio flexibility to achieve the estimated goal.²² Regardless, AIC will exercise such flexibility in a manner consistent with its implementation of its 8-103 Plan 2, absent direction to the contrary from

²⁰ Again, programs do not include segments that have been delegated to the Illinois Department of Commerce and Economic Opportunity (“DCEO”) under Section 8-103.

²¹ Final year net savings determinations are subject to NTG ratios and measure values as confirmed by the independent evaluators and are subject to change.

²² The Commission recognized the importance of providing and preserving flexibility, enabling the programs to change design, implementation and funding, as needed to respond to market changes. Specifically, the Commission stated, in the Final Order for Docket No. 10-058, that it “grants Ameren the flexibility to administer its programs in the same manner and subject to the same requirements that it has been granted to administer its previous plans. (See, Final Order, Docket No. 07-0539, Order at 26, (Feb. 6, 2008)).

the Commission. .

2.8 Impact on Procurement

“(a)(3)(G) For each expanded or new program, the estimated amount that the program may reduce the agency's need to procure supply.”

Notably, this language pertains only to the revised Section. Nonetheless, as set forth in Table 4 below, the estimated eligible retail customer savings is 25,409 MWH.²³ This is based on the switching data related to the forecast supplied in the other portion of this submission.

Table 4: Savings Attributable To Eligible Retail Customers

	% Eligible Retail ²⁴		Est Net MWH ²⁵ (Not Declared Competitive)		Est MWH (Eligible Retail)	
	DS1	DS2	DS1	DS2	DS1	DS2
Jun-13	44.46%	28.93%	3,684	2,218	1,638	642
Jul-13	43.96%	28.43%	3,684	2,218	1,620	631
Aug-13	43.46%	27.93%	3,684	2,218	1,601	620
Sep-13	42.96%	27.43%	3,684	2,218	1,583	608
Oct-13	42.46%	26.93%	3,684	2,218	1,564	597
Nov-13	41.96%	26.43%	3,684	2,218	1,546	586
Dec-13	41.46%	25.93%	3,684	2,218	1,528	575
Jan-14	40.96%	25.43%	3,684	2,218	1,509	564
Feb-14	40.46%	24.93%	3,684	2,218	1,491	553

²³ In order to determine an estimate of the IPA's reduction in procuring supply, the savings estimates must exclude those who are not eligible retail customers.

²⁴ Switching forecast provided by the forecast analysis accompanying this submission.

²⁵ Final year net savings determinations are subject to NTG ratios and measure values as confirmed by the independent evaluators and are subject to change.

Mar-14	39.96%	24.43%	3,684	2,218	1,472	542
Apr-14	39.46%	23.93%	3,684	2,218	1,454	531
May-14	38.96%	23.43%	3,684	2,218	1,435	520
Total			44,213	26,621	18,441	6,968

2.9 Third-Party Solicitation

“(a)(3)(G) (continued) In preparing such assessments, a utility shall conduct an annual solicitation process for purposes of requesting proposals from third-party vendors, the results of which shall be provided to the Agency as part of the assessment, including documentation of all bids received. The utility shall develop requests for proposals consistent with the manner in which it develops requests for proposals under plans approved pursuant to Section 8-103 of this Act, which considers input from the Agency and interested stakeholders.”

AIC performed an RFP and bidding process from January 2012 through March 2012. AIC circulated the bids and the resulting AIC analyses of those bids were shared with key stakeholders who exhibited interest.

Notably, AIC performed a thorough bid request process by sending out separate RFPs directly to all individual vendors (over 100) who are members of one of the largest energy efficiency association (Association of Energy Services Professionals) in addition to posting the bid on energy efficiency bidding websites. Over 50 potential bidders attended AIC’s bidder’s information session, which demonstrates robust distribution of the RFP. Ultimately, twenty-one bids were received through the bidding process.

The RFP and all bids received are contained in the materials attached as Appendix 4, and are provided to the IPA as confidential material. Appendix 6 provides the analyses of the bids received and is also provided to the IPA as confidential material.

2.10 Collaboration

“(a)(5) The utility shall consider input from the Agency and interested stakeholders on the procurement and administration process.”

As reflected herein, AIC sought and considered the input of the IPA, ICC Staff, and other interested stakeholders. AIC remains committed to continuing this collaborative process, as well as the collaborative relationships that have been established during the implementation of the current 8-103 portfolio.

2.11 Cost Recovery and Budget

“(a)(6) An electric utility shall recover its costs incurred under this Section related to the implementation of energy efficiency programs and measures approved by the Commission in its order approving the procurement plan under Section 16-111.5 of this Act, including, but not limited to, all costs associated with complying with this Section and all start-up and administrative costs and the costs for any evaluation, measurement, and verification of the measures, from all retail customers whose electric service has not been declared competitive under Section 16-113 of this Act and who are eligible to purchase power and energy from the utility under fixed-price bundled service tariffs, regardless of whether such customers actually do purchase such power and energy from the utility ~~eligible retail customers~~ through the automatic adjustment clause tariff established pursuant to Section 8-103 of this Act, provided, however, that the limitations described in subsection (d) of that Section shall not apply to the costs incurred pursuant to this Section or Section 16-111.7 of this Act.”

In accordance with the above, if the IPA chooses to include new or additional energy efficiency programs and measures in its procurement plan to be implemented by AIC, then AIC shall recover costs from those not declared competitive as incremental to costs associated with its existing portfolio related to Section 8-103, and related to complying with this Section and implementing the resulting programs. AIC intends to file a revised Rider EDR complying with this requirement shortly after the effective date of SB3811, or if/when it becomes clear that SB3811 is not going to be signed

into law.

AIC notes, however, that while the legislation provides for the recovery of costs that are incremental to the budget cap implemented by Section 8-103, it would be unduly burdensome on both the utility and the ratepayers, as well as not feasible under how AIC currently accounts for cost recovery, to reliably designate which costs are incurred for the Section 8-103 programs versus which costs are incurred for Section 16-111.5B. This is particularly a problem for those programs that are expanding existing programs. For example, when expanding the lighting program, it is not feasible to reliably discern at what point a particular dollar is used to achieve savings for which portion of the program (Section 8-103 versus Section 16-111.5B) because of how the incentives are provided to customers (e.g., rebates or cost reductions on certain types and quantities of light bulbs in a retail setting). Similarly, it is not a reasonable use of ratepayers' funds to try and determine a division in administrative, marketing or implementation costs.

Therefore AIC requests that any additional funds needed to acquire the approved additional MWH savings in Section 16-111.5B be added to the existing Section 8-103 budget and operate on a functional level as a single budget.²⁶

Subject to the forgoing, AIC estimates the costs for the proposed portfolio are as follows:

Table 5: Costs and Savings²⁷

Y6: June 1, 2013- May 31, 2014	COSTS	Estimated Net MWH Savings²⁸ (all those not declared competitive)
Section 8-103	\$45,912,310	216,495
Section 16-111.5B	\$27,328,868	70,834
Total Y6	\$73,241,178	287,329
Change	+60%	+33%

²⁶ AIC would also want approval to have the independent evaluators who assess the achieved savings in a single assessment, as well.

²⁷ Again, programs do not include segments that have been delegated to the Illinois Department of Commerce and Economic Opportunity ("DCEO) under Section 8-103.

²⁸ Final year net savings determinations are subject to NTG ratios and measure values as confirmed by the independent evaluators and are subject to change.

2.12 Estimated Costs to Acquire Additional Energy Efficiency Measure

“(b) For purposes of this Section, the term "energy efficiency" shall have the meaning set forth in Section 1-10 of the Illinois Power Agency Act, and the term "cost-effective" shall have the meaning set forth in subsection (a) of Section 8-103 of this Act. ~~In addition, the estimated costs to acquire an additional energy efficiency measure, when divided by the number of kilowatt hours expected to be saved over the life of the measure, shall be less than or equal to the electricity costs that would be avoided as a result of the energy efficiency measure.~~”

As previously described in Section 2.4 the TRC test was used to determine program cost-effectiveness per the legislation. As previously explained in Section 2.7 the UCT was performed to determine if the estimated costs are less or equal to electricity costs. AIC provides the required analysis for both the current and revised legislative language in Table 2, Section 2.7.

Appendix 1: SB3811

Sec. 16-111.5B. Provisions relating to energy efficiency

Procurement.

SB3811 Engrossed

- 13 -

LRB097 19963 CEL 65260 b

1 (a) Beginning in 2012, procurement plans prepared pursuant
2 to Section 16-111.5 of this Act shall be subject to the
3 following additional requirements:
4 (1) The analysis included pursuant to paragraph (2) of
5 subsection (b) of Section 16-111.5 shall also include the
6 impact of energy efficiency building codes or appliance
7 standards, both current and projected.

8 (2) The procurement plan components described in
9 subsection (b) of Section 16-111.5 shall also include an
10 assessment of opportunities to expand the programs
11 promoting energy efficiency measures that have been
12 offered under plans approved pursuant to Section 8-103 of
13 this Act or to implement additional cost-effective energy
14 efficiency programs or measures.

15 (3) In addition to the information provided pursuant to
16 paragraph (1) of subsection (d) of Section 16-111.5 of this
17 Act, each Illinois utility procuring power pursuant to that
18 Section shall annually provide to the Illinois Power Agency
19 by July 15 of each year, or such other date as may be
20 required by the Commission or Agency, an assessment of
21 cost-effective energy efficiency programs or measures that
22 could be included in the procurement plan. The assessment
23 shall include the following:

24 (A) A comprehensive energy efficiency potential
25 study for the utility's service territory that was
26 completed within the past 3 years.

1 (B) Beginning in 2014, the most recent analysis
2 submitted pursuant to Section 8-103A of this Act and
3 approved by the Commission under subsection (f) of

4 Section 8-103 of this Act.

5 (C) Identification of new or expanded
6 cost-effective energy efficiency programs or measures
7 that are incremental to those included in energy
8 efficiency and demand-response plans approved by the
9 Commission pursuant to Section 8-103 of this Act and
10 that would be offered to all retail customers whose
11 electric service has not been declared competitive
12 under Section 16-113 of this Act and who are eligible
13 to purchase power and energy from the utility under
14 fixed-price bundled service tariffs, regardless of
15 whether such customers actually do purchase such power
16 and energy from the utility ~~eligible retail customers.~~

17 (D) Analysis showing that the new or expanded
18 cost-effective energy efficiency programs or measures
19 would lead to a reduction in the overall cost of
20 electric service.

21 (E) Analysis of how the cost of procuring
22 additional cost-effective energy efficiency measures
23 compares over the life of the measures to the
24 prevailing cost of comparable supply.

25 (F) An energy savings goal, expressed in
26 megawatt-hours, for the year in which the measures will

1 be implemented.

2 (G) For each expanded or new program, the estimated
3 amount that the program may reduce the agency's need to
4 procure supply.

5 In preparing such assessments, a utility shall conduct
6 an annual solicitation process for purposes of requesting
7 proposals from third-party vendors, the results of which
8 shall be provided to the Agency as part of the assessment,
9 including documentation of all bids received. The utility
10 shall develop requests for proposals consistent with the
11 manner in which it develops requests for proposals under
12 plans approved pursuant to Section 8-103 of this Act, which
13 considers input from the Agency and interested
14 stakeholders.

15 (4) The Illinois Power Agency shall include in the
16 procurement plan prepared pursuant to paragraph (2) of
17 subsection (d) of Section 16-111.5 of this Act energy
18 efficiency programs and measures it determines are
19 cost-effective and the associated annual energy savings
20 goal included in the annual solicitation process and
21 assessment submitted pursuant to paragraph (3) of this
22 subsection (a).

23 (5) Pursuant to paragraph (4) of subsection (d) of

24 Section 16-111.5 of this Act, the Commission shall also
25 approve the energy efficiency programs and measures
26 included in the procurement plan, including the annual

SB3811 Engrossed

- 16 -

LRB097 19963 CEL 65260 b

1 energy savings goal, if the Commission determines they
2 fully capture the potential for all achievable
3 cost-effective savings, to the extent practicable, and
4 otherwise satisfy the requirements of Section 8-103 of this
5 Act.

6 In the event the Commission approves the procurement of
7 additional energy efficiency, it shall reduce the amount of
8 power to be procured under the procurement plan to reflect
9 the additional energy efficiency and shall direct the
10 utility to undertake the procurement of such energy
11 efficiency, which shall not be subject to the requirements
12 of subsection (e) of Section 16-111.5 of this Act. The
13 utility shall consider input from the Agency and interested
14 stakeholders on the procurement and administration
15 process.

16 (6) An electric utility shall recover its costs
17 incurred under this Section related to the implementation
18 of energy efficiency programs and measures approved by the

19 Commission in its order approving the procurement plan
20 under Section 16-111.5 of this Act, including, but not
21 limited to, all costs associated with complying with this
22 Section and all start-up and administrative costs and the
23 costs for any evaluation, measurement, and verification of
24 the measures, from all retail customers whose electric
25 service has not been declared competitive under Section
26 16-113 of this Act and who are eligible to purchase power

SB3811 Engrossed

- 17 -

LRB097 19963 CEL 65260 b

1 and energy from the utility under fixed-price bundled
2 service tariffs, regardless of whether such customers
3 actually do purchase such power and energy from the utility
4 ~~eligible retail customers~~ through the automatic adjustment
5 clause tariff established pursuant to Section 8-103 of this
6 Act, provided, however, that the limitations described in
7 subsection (d) of that Section shall not apply to the costs
8 incurred pursuant to this Section or Section 16-111.7 of
9 this Act.

10 (b) For purposes of this Section, the term "energy
11 efficiency" shall have the meaning set forth in Section 1-10 of
12 the Illinois Power Agency Act, and the term "cost-effective"
13 shall have the meaning set forth in subsection (a) of Section
14 8-103 of this Act. ~~In addition, the estimated costs to acquire~~

15 ~~an additional energy efficiency measure, when divided by the~~
16 ~~number of kilowatt-hours expected to be saved over the life of~~
17 ~~the measure, shall be less than or equal to the electricity~~
18 ~~costs that would be avoided as a result of the energy~~
19 ~~efficiency measure.~~
20 (Source: P.A. 97-616, eff. 10-26-11.)

Appendix 2: Program Descriptions

A) Expansion of Current Programs

PROGRAM	Residential Multifamily
Objective	Expand current portfolio program that delivers cost-effective conservation services to the multifamily housing market, including in-unit and common area improvements.
Target Market	Owners, managers, and developers of multifamily housing (three or more units). Focus on management companies holding multiple properties.
Program Description	The program provides incentives for installation of measures in tenant spaces and incentives for replacement of standard efficiency common area lighting and incandescent and fluorescent exit signs with LED exit signs in addition to more complex measures (windows, replacement of roof-top AC units).

PROGRAM	Residential ENERGY STAR New Homes
Objective	Expand current portfolio program that increases consumer awareness of and demand for ENERGY STAR family homes while increasing the building industry's willingness and ability to construct ENERGY STAR homes. This program's primary goal is to achieve energy savings through sales of ENERGY STAR homes.
Target Market	Builders of new homes for AIC electric residential customers.
Program Description	New construction covers the building of new energy-efficient homes, including the new home's envelope (outer walls, windows, doors, skylights, roof and insulation), HVAC system, ductwork, lighting, and appliances. The program targets builders with a package of training, technical, and marketing assistance and incentives for construction of ENERGY STAR homes. The program would also provide supplemental incentives for savings measures not otherwise included in the builders' design or construction process (e.g. the ENERGY STAR Advanced Lighting Package, duct sealing, air sealing, insulation, and ENERGY STAR certified appliances).
PROGRAM	Residential Lighting
Objective	Expand current portfolio program that increases sales and awareness of ENERGY STAR qualified lighting products
Target Market	Existing program partners (retailers and hardware stores) including Home Depot, Lowe's, Menard's, and Sam's Club who currently participate in the portfolio program in addition to new ones as acquired. AIC will also offer an online store to service customers who do not have a retailer near their location.
Program Description	The program will continue to be coordinated by the portfolio's current prime contractor and their subcontractors with significant experience in working with national retail outlets. The contractor offers incentives to the manufacturing and retail partners to increase sales of qualified lighting. Through these upstream and midstream incentives, the end-user receives a discount on the price of highly efficient, ENERGY STAR or better, qualified lighting products. There is an emphasis on training the retail outlet sales staff to discuss the benefits of efficient lighting as well as increased point of purchase marketing materials to increase consumer awareness.

PROGRAM	Small Business Prescriptive
Objective	Expand current portfolio program that promotes the installation of standard energy efficient technologies including lighting, motors, HVAC, and refrigeration in nonresidential properties. Measures included within this program are common in multiple marketplaces and have default savings values associated with their energy performance.
Target Market	AIC electric nonresidential customers whose annual demand is 150 KW and below.
Program Description	The program incents customers to purchase energy efficient products. Measures included within this program will have predetermined savings values and fixed incentive levels associated with them that do not vary per installation. Various measures may require a simple calculation to identify measure savings, but the measure level incentives will remain fixed regardless of individual project characteristics (air compressors, VFDs, etc.). Trade allies including contractors, retailers, and distributors will be the main sales force promoting the program and educating customers.

B) New Programs

PROGRAM	Efficiency Kits
Objective	To increase energy efficiency for hard to reach customers and via school aged children.
Target Market	AIC electric rural (hard to reach) customers, and distributed to 5 th grade classes as part of an elementary school awareness campaign.
Program Description	Provision of efficiency kits with Instant Savings Measures (ISMs) to select customers. Each kit will consist of: (2) 14W CFLs, (1) 19W CFL, (1) 23W CFL, (1) bathroom aerator, (1) kitchen aerator, (1) showerhead, and a set of instructions on how to set the temperature of their water heater with a postcard that they will return to confirm they performed the setback.

PROGRAM	All Electric Homes
Objective	Install all electric homes with more efficient technologies.
Target Market	AIC electric residential customers with electric space heating, water heating, and cooling.
Program Description	<p>The program provides free direct installation of low-cost measures including CFLs, low flow showerheads and faucet aerators, and line voltage set-back thermostats for baseboard heating systems.</p> <p>In addition, customers with electric baseboard heat and no central AC may be candidates for free replacement of these heating systems with ductless mini-split heat pumps. These are relatively new systems in the U.S market that allow efficient retrofit of heat pumps in homes with baseboard heat and/or window air conditioners. These units offer much higher efficiency levels, and in this case, qualifying units must have a SEER rating of 16 or higher.</p> <p>If they already have a central AC, the preference would be for them to replace it with an ASHP rather than the ductless system since they would likely have a duct system in place.</p>

PROGRAM	CFL Distribution
Objective	<p>The proposed program aims to:</p> <ul style="list-style-type: none"> • Educate consumers on the benefits and uses of energy efficient lighting; • Raise awareness of energy efficiency and the ENERGY STAR® program; • Encourage future purchase of energy efficient, ENERGY STAR® lighting; • Engage the public in a positive manner, and • Increase the likelihood that targeted customers will adopt additional energy efficiency measures.
Target Market	Homes of AIC electric customers who have not responded to traditional retail discount lighting programs in addition to high energy users.
Program Description	Directly (in-person) deliver six ENERGY STAR® qualified CFLs to each household as a gift to customers by trained field representatives. This activates the principle of reciprocity to gain customer commitment to install the measures, while simultaneously engaging them in conversation to explain the benefits of doing so. The program is also able to overcome language barriers and engage people of all demographics by utilizing community members and local groups to go door-to-door and explain to their neighbors the benefits of installing these efficiency measures.

PROGRAM	Small Business Direct Install
Objective	Increase the installation of energy efficiency measures in small businesses
Target Market	<p>Relatively untapped markets, focusing on AIC small business customers in the following segments:</p> <ul style="list-style-type: none"> • Small Restaurants • Small Grocery • Auto Dealers/ Convenience Stores/Gas Stations • Small Health Services • Small Private Schools • Membership Organizations • Small Banks • Small Hotel/Motel
Program Description	<p>Perform a free on-site visit for the installation of free or low cost energy efficiency products, including the development of a free tailored benchmark report that would include the facility Energy Star® rating and recommended additional energy efficiency upgrades for the facility. The initial on-site visit would take on average 1-4 hours and will be conducted by a 2-person team. One would focus on installation of EE products (no cost to the customer) and the other would collect the necessary facility information to develop the EnergyScan Report. The installation of energy efficient direct install equipment offerings occurs during this initial visit or at a later date as desired by the customer.</p> <p>Direct install measures include items such as CFLs, LED Exit signs, occupancy sensors, Low-flow aerators (electric water heat only), water heater pipe insulation (electric water heater only), refrigerator/freezer door gaskets and automatic door closers, programmable thermostats, among others.</p>

The following are provided as separate attachments:

Appendix 3: Potential Study

Appendix 4: Third Party RFP

Appendix 5: Third Party Bids (CONFIDENTIAL)

Appendix 6: Detailed Analyses (CONFIDENTIAL)